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REMARKS

Status of the Claims

In the Office Action, claims 1-18 were noted as pending in the application. All claims stand rejected.

A. Rejection of Claims 2-9, 11 and 13-18 under 35 U.S.C. § 103(a).

Beginning on page 42 of the Office Action, claims 2-9, 11 and 13-18 stand rejected under 35 U.S.C. § 103 as being obvious. The reasons that the claims patentably distinguish over the reference are addressed below.

B. Summary of Cited References

Before addressing the Examiner's rejections, a brief summary of the cited references is provided.

Johnson, et. al. - U.S. Patent Number 6,985,963 ("Johnson")

Johnson relates to sharing access to an IP network among multiple ISPs. Abstract. The system in Johnson uses multi protocol label switching. Id.

Vogel - U.S. Patent Number 6,742,187 ("Vogel")

Vogel relates to upstream channel change. Col. 4, lines 13-14. An upstream channel change ("UCC") takes longer to complete than the claimed subject matter. Col. 13, lines 26-30. In the claimed method, a cable modem monitors MAP messages in its current channel and other channels that are carried over a link between a CMTS and a cable modem. When a unicast opportunity is available on one of the other channels, the cable modem shifts its upstream channel to the alternate channel having the available unicast channel. Col. 13, lines 38-50.

Allen - U.S. Patent Number 6,850,965 ("Allen")

Allen relates to the delivery of multimedia content over a variety of networks. More specifically, it pertains to multimedia servers which service many clients simultaneously for the delivery of multimedia content which is used and played back at each client. Col. 1, lines 14-18. "In essence, little or no CAC procedure [is] implemented" in efficiently using bandwidth across multiple user connections. Portions of a program are 'burst-transmit[ted]' so that the transmission system "gets ahead of itself", thus allowing headroom for a myriad of methods to intelligently handle new clients, client interactivity and possible network fluctuations." Col. 3, lines 6-12.

Rai, et. al. - U.S. Patent Number 6,438,110 ("Rai")

Rai relates to scheduling reservation in response to connection requests on a communication network. Abstract. If an available route is found, the connection is reserved. Id. Unscheduled requests are stored to a list. Id. Communications networks comprise a plurality of nodes, at which are located node equipment, which is interconnected with links. Col. 1, lines 14-17.

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C. The Claims are not Obvious over the cited references

Applicant respectfully submits that the subject matter of the claims patentably distinguish over the cited references. Under MPEP § 2142, for an examiner to establish a *prima facie* case of obviousness, "three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure." If any of these three criteria are not met, the Examiner has not met the burden of establishing a *prima facie* case of obviousness, and the rejection should be withdrawn.

Furthermore, each dependent claim includes all of the limitations of the independent claim from which it depends. If an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is non-obvious. MPEP §2143.03, citing In re Fine, 837 F.2d 1071 (Fed. Cir. 1988). Applicant respectfully submits that the burden of establishing a *prima facie* case of obviousness has not been met.

D. Claims are not obvious over the cited references

Claim 1 claims "... receiving a request for bandwidth on one of the physical links for a first ISP, wherein the request is initiated by a requesting subscriber; determining available bandwidth on said physical link; determining available bandwidth on the physical link for the first ISP; comparing available bandwidth for said first ISP with the amount of requested bandwidth; and granting or denying cable data service to the new subscriber based upon the determination of whether the available bandwidth is greater than, less than or equal to the bandwidth to be allocated to the new subscriber." Johnson does not claim these elements. Examiner sites generally col. 9, line 30 – col. 10, line 5. The portions of this cited section that seem to be most germane include col. 9, lines 40-52. This section discusses generally that it is desirable to account for bandwidth used by each ISP by counting packets flowing out of the backbone network at each border router. Id. Johnson goes on to discuss that accounting for usage facilitates entering into usage agreements with operators of a customer access network and/or the backbone network(s). Id. Johnson provides the example that a certain ISP can enter into an agreement with an operator not to use more than a maximum amount. Alternatively, the accounting can be used to bill the ISP for the actual number of packets counted. Id.

Within this portion of the cited section, Johnson states that accounting for bandwidth used is accomplished by counting the packets passing out of a given border router toward an ISP. Col. 9, lines 39-41. Johnson also explains that in the alternative, if a border router is only coupled to one ISP, packets flowing into said ISP can be counted. Col. 9, lines 41-43. It is noted that the term 'account' may be used synonymously with 'count.' Webster's Third New International Dictionary Unabridged, Merriam-Webster, Inc., 1993, pp. 12-13. In addition, Johnson states that "... traffic accounting can be performed by counting packets forwarded to the ISP by the border router." Col. 3, lines 3-5. Thus, Johnson teaches that an amount of bandwidth is determined by counting the number of packets that pass a given point in a network - a border router in the disclosed

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embodiment. It will be appreciated that packets can vary in size. In addition, no mention is made in Johnson of the number of packets that are associated with a given ISP in a predetermined period.

In contrast, claim 1 claims "... determining available bandwidth on said physical link; determining available bandwidth on the physical link for the first ISP."

Examiner states that the elements of "... comparing available bandwidth for said first ISP with the amount of requested bandwidth; and granting or denying cable data service to the new subscriber based upon the determination of whether the available bandwidth is greater than, less than or equal to the bandwidth to be allocated to the new subscriber" are not found in Johnson.

With respect to the element of "determining available bandwidth on said physical link . . .," Examiner states that Johnson discloses this element at col. 9, line 22 – col. 10, line 5. Examiner also states the element of "determining available bandwidth on the cable data system link" is described in Johnson. As discussed above, Johnson teaches counting packets as they pass through a border router. Col. 9, lines 46-57. Johnson goes on to discuss that the counting of packets may be used to enter into usage agreements, for example, an ISP agrees that its users will use a certain amount of bandwidth or that an ISP will pay a fee based on the amount of bandwidth used by its users. *Id.* It will be appreciated that for packets to be counted flowing through a border router, a connection between an ISP and its one or more user(s) must already have been established. As the ISP's users consume services, as determined by counting packets, the ISP providing the services is billed accordingly.

In contrast, the subject matter claimed in claim 1 of the present application relates to a connection admission control. If predetermined criteria are not met for a particular connection admission request, the request is denied. In such a scenario, there are no packets to count because a connection has not even been established yet. Thus, the elements of "... determining available bandwidth on said physical link [and] determining available bandwidth on the physical link for the first ISP. . ." are not found in Johnson. These two elements of claim 1 relate to determining the amount of bandwidth, a flow rate measured typically measured in bytes per second, that are available to facilitate establishing a connection for a user other than a user who is already connected. Johnson, on the other hand, relates to measuring the current amount of bandwidth being used by a user and by the users of a given ISP, as taught by Johnson. Indeed, Johnson teaches that "[t]he backbone 124 preferably provides extremely high bandwidth in order to support many end-users 110 and ISPs." Col. 5, lines 5-7. This passage in Johnson implies that, notwithstanding that there are physical limits to the amount of bandwidth a given backbone network can support, for purposes of discussing the Johnson invention the backbone will always have bandwidth available, and that the purpose of the invention in Johnson is to determine how to bill for services based on bandwidth that has been used. This is supported in the Background section that states that [a] solution . . . should allow accounting for the bandwidth utilized by the customers of each ISP. Col. 2, lines 4-8.

In the context of the Johnson specification, 'bandwidth utilized' is determined by counting packets corresponding to bandwidth that has been used by users of an ISP. Thus, the use of the past tense form of the verb 'to utilize' in the Background sets up the problem to be solved by the invention as a need for accounting for packets that have flowed through a network device for connections of users corresponding to a given ISP.

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Unlike Johnson, the connection access control process described in the present application operates before packets have begun to flow. Indeed, the last element of claim 1 recites "... granting or denying cable data service to the new subscriber based upon the determination of whether the available bandwidth ...". In this element, a connection is either granted or denied to a requesting subscriber based on whether enough bandwidth is available for a given ISP on a physical link. In other words, the granting or denying takes place before packets associated with a service flow begin to flow. Therefore, Johnson cannot describe the elements recited in claim 1 because Johnson describes process steps that occur after a connection has been granted. Moreover, Johnson describes counting packets that have already been processed rather than assessing current bandwidth usage conditions before a connection is established.

Turning to the rejection of claim elements based on Rai, Rai defines a connection as "... a communications path between a source node and one or more destination nodes via a route across one or more network links." Col. 1, lines 36-39. Examiner states that Rai teaches the last two recited elements of claim 1 of the present application at col. 12, line 62 – col 13, line 65. Applicant respectfully disagrees with Examiner's assertion that the final two elements of claim 1 are found in Rai.

Rai does not teach the limitation of requesting bandwidth on a particular physical link corresponding to a given ISP. It follows then that Rai does not teach determining the amount of bandwidth available on the physical link, determining the amount of bandwidth on the physical link for the given ISP, comparing the determined amount with a predetermined amount of bandwidth, and granting or denying a connection request based whether the link has enough available capacity to support the new connection. Rather, Rai relates to, and teaches, that a request between two points be carried over an optimal path comprising a series of route links. In Rai, "if one or more links ... do not have the required bitrate capacity ... the connections scheduler attempts to use another of the routes available ... until an available route is found ...". Col. 7, lines 59-65. Thus, Rai teaches away from denying a request for cable data service based upon a determination of whether the available bandwidth on a physical link between a CMTS and an ISP is greater than, less than or equal to the bandwidth to be allocated to a requesting subscriber.

Rai also does not describe "comparing available bandwidth for said first ISP with the amount of requested bandwidth." As discussed above, Rai relates to establishing a connection over a route typically comprising multiple links. However, Rai does not teach comparing available bandwidth allocated for an ISP with an amount of bandwidth requested by a subscriber. Accordingly, since the last two elements of claim 1 are not found in Rai, and Examiner stated they are not taught in Johnson, neither of the final two elements of claim 1 are founding the references, either alone or in combination.

Furthermore, there is not a likelihood of success in combining the references in arriving at the subject matter claimed in claim 1 because, as discussed above, Johnson counts packets that flow in an established, active, or previously active connection. Rai relates to scheduling a connection over a particular route of links based on the bandwidth requested for the connection and the capacity of the various links of the route. Therefore, since there would be no packets for the process disclosed by Johnson in a route that is scheduled by the process of Rai, but not established or active yet, a combination of Johnson and Rai would not result in either granting or denying cable data service based

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upon the determination of whether the available bandwidth on a physical link between a CMTS and an ISP is greater than, less than or equal to the bandwidth to be allocated to the new subscriber.

Another way of analyzing this last element is that the method of claim 1 may deny a connection over one link (between CMTS and a user's cable modem) based on available bandwidth over a different link (between CMTS and an ISP). In Rai, a particular individual link is analyzed to determine whether it can support a bandwidth request. If not, a different link is analyzed to determine whether it can support the request. If not, another link is analyzed, and so on. Thus, because Rai teaches that when one link cannot support a request another is tried, the reference teaches away from denying a request for cable data service over a link between a CMTS and ISP when there is no available bandwidth for the ISP on the link.

In addition to the lack of likelihood of success in combining the references in arriving at the claimed subject matter, there is no suggestion or motivation to combine the references to arrive at the claimed subject matter. As discussed above, Johnson relates to counting packets in streams that have already been established. Rai relates to establishing a route over which the service flow will be connected. Indeed Rai states that "[s]cheduled connection requests are referred to as 'connections,'" Col. 13, lines 53-54. In other words, bytes in a scheduled connection have not begun to flow, thus they cannot be counted, because the 'connection' is merely scheduled.

Based on the analysis above, all of the elements of claim in the present application are not described in the references, either alone or in combination. Furthermore, there is not a suggestion or motivation to combine the references to arrive at the limitations of claim 1. In addition, there is not a likelihood of success in combining the references to arrive at the claim limitations. Accordingly, claim 1 patentably distinguishes over the references. Withdrawal of the rejection is respectfully requested.

Similar analysis as that of claim 1 vis-à-vis the cited references applies to claim 10. Thus, claim 10 patentably distinguishes over the references. Withdrawal of the rejection is respectfully requested.

The rest of the rejected claims are dependent claims that either depend from claim 1 or claim 10. Applicant has shown above that claims 1 and 10 patentably distinguish over the cited references. Accordingly, the dependent claims that depend there from also patentably distinguish over the references because they contain all of the limitations of the base claim from which they depend. Withdrawal of the rejection of the dependent claims is respectfully requested.

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SUMMARY

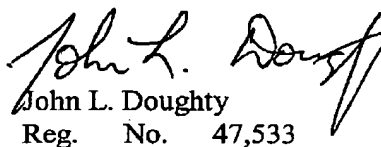
For all the reasons advanced above, Applicant respectfully submits that the application is in condition for allowance and that action is earnestly solicited.

If the Examiner believes that there are any issues that can be resolved by a telephone conference, or that there are any informalities that can be corrected by an Examiner's amendment please contact the undersigned at the mailing address, telephone, facsimile number, or e-mail address indicated below.

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